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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,993	01/21/2009	Soeren Flygenring Christensen	CHRISTENSEN10A	1714
1444	7590	09/28/2011		
Browdy and Neimark, PLLC 1625 K Street, N.W. Suite 1100 Washington, DC 20006			EXAMINER CHARIOUI, MOHAMED	
			ART UNIT 2857	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,993	Applicant(s) CHRISTENSEN ET AL.	
	Examiner MOHAMED CHARIOUI	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-10 and 36-43 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-9 and 38-42 is/are rejected.
- 8) ☒ Claim(s) 10,36, 37 and 43 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☒ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/18/08</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Applicant cancelled claims 11-35 and 44-47.

Specification

2. The disclosure is objected to because of the following informalities:

In the Brief Description of the drawing in page 15 of the specification, Applicant is required to describe Scheme 1A, Scheme 1B, Scheme 2A and Scheme 2B. Appropriate correction is required.

3. In pages 27 and 28 of the specification, the Applicant is using a notation of a determinant of a matrix to represent a matrix. Appropriate correction is required.

Claim Objections

4. **Claims 1 and 10** are objected to because of the following informalities:

In claim 1, line 3, Change "immobilised" to –immobilized–.

In claim 10, line 2, Change "immobilised" to –immobilized–.

Appropriate correction is required.

Applicant is required to correct this spelling throughout the application.

5. **Claims 4 and 7** are objected to because of the following informalities:

The Applicant is using a notation of a determinant of a matrix to represent a matrix. Appropriate correction is required. Appropriate correction is required.

6. **Claim 39** is objected to because of the following informalities:

Claim 39 recites the limitation "wherein the geometrical figures" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

7. **Claim 42** is objected to because of the following informalities:

In claim 42, line 9, delete "preferably".

8. **Claim 38** is objected to because of the following informalities:

Claim 38 recites the limitation "using the method of claim 7" in line 6. It is not clear whether claim 38 is a dependant claim or should be considered an independent claim. The limitation "using the method of claim 7" is causing the claim to have insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

The Examiner suggests that Applicant recites the limitations of claim 7 in claim 38.

9. **Claim 42** is objected to because of the following informalities:

Claim 42 recites the limitation "generated by the method of claim 1" in line 9. It is not clear whether claim 42 is a dependant claim or should be considered an independent claim. The limitation "generated by the method of claim 1" is causing the claim to have insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

The Examiner suggests that Applicant recites the limitations of claim 1 in claim 42.

10. **Claim 43** is objected to because of the following informalities:

Claim 43 recites the limitation "performing the recording method of claim 42" in line 3. It is not clear whether claim 43 is a dependant claim or should be considered an independent claim. The limitation "performing the recording method of claim 42" is

Art Unit: 2857

causing the claim to have insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

The Examiner suggests that Applicant recites the limitations of claim 42 in claim 43.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "by a method" in line 4. It is not clear what method the Applicant is referring to. Therefore, claim 7 is considered indefinite.

Claim 8 recites "The method or polymer matrix according to" in 1. It is unclear what the Applicant is referring to since claim 1 is claiming a method for detection of relative positions in space of centers (x,y,z) of immobilized particles. Therefore, claim 8 is considered indefinite.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2857

12. **Claim 8** is rejected under 35 U.S.C. 101 because the claim is drawn to a method or polymer matrix, where polymer matrix is considered to be data structure and data structure is nonstatutory subject matter. (See MPEP 2106.01)

2106.01 [R-6] Computer-Related Nonstatutory Subject Matter Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a physical or logical relationship among data elements, designed to support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Both types of “descriptive material” are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754, 31 USPQ2d 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

13. **Claims 1-9** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

It has been held that the first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 USC § 101: process, machine, manufacture and composition of matter. The latter three categories define “things” or “products,” while a “process” consists of a series of steps or acts to be performed. For purposes of § 101, a “process” has been given a specialized, limited meaning by the courts.

Based on Supreme Court precedent and recent Federal Circuit decisions, it has been held that a § 101 process must (1) be tied to another statutory class (a particular

Art Unit: 2857

machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to non-statutory subject matter. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

14. **Claims 38-40** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

It has been held that the first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 USC § 101: process, machine, manufacture and composition of matter. The latter three categories define “things” or “products,” while a “process” consists of a series of steps or acts to be performed. For purposes of § 101, a “process” has been given a specialized, limited meaning by the courts.

Based on Supreme Court precedent and recent Federal Circuit decisions, it has been held that a § 101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as

being directed to non-statutory subject matter. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

15. **Claim 41** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

It has been held that the first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 USC § 101: process, machine, manufacture and composition of matter. The latter three categories define “things” or “products,” while a “process” consists of a series of steps or acts to be performed. For purposes of § 101, a “process” has been given a specialized, limited meaning by the courts.

Based on Supreme Court precedent and recent Federal Circuit decisions, it has been held that a § 101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to non-statutory subject matter. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the

method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

16. **Claim 42** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

It has been held that the first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 USC § 101: process, machine, manufacture and composition of matter. The latter three categories define “things” or “products,” while a “process” consists of a series of steps or acts to be performed. For purposes of § 101, a “process” has been given a specialized, limited meaning by the courts.

Based on Supreme Court precedent and recent Federal Circuit decisions, it has been held that a § 101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to non-statutory subject matter. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Allowable Subject Matter

Art Unit: 2857

17. **Claims 10, 36, 37 and 43** would be allowed when the objection made above is overcome.

Prior art

18. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Mir ['144] discloses array and method of use.

Contact information

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/583,993
Art Unit: 2857

Page 10

Mohamed Charioui

9/23/11

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Primary Examiner, Art Unit 2857